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A Study of Psychological Differences Between "Racial" and National Groups in Europe

BY

OTTO KLINEBERG, M.D., Ph.D.

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This investigation was conducted by the writer under a National Research Council Fellowship, from November, 1927, to May, 1929. He takes pleasure in acknowledging his indebtedness to the National Research Council and to the Board of Fellowships in the Biological Sciences for making the investigation possible; to the various European psychologists and anthropologists whose advice and cooperation were of great service, and particularly to Professors H. Piéron and P. Rivet of Paris, William Stern and Hans Paul Roloff of Hamburg, Sante de Sanctis, F. Banissoni and S. Sergi of Rome, and A. Marro of Turin; to the school-superintendents and school-teachers who placed their pupils and their class-rooms at his disposal; to the students, especially H. H. Böttger of Hamburg, who very kindly assisted in the administration of the tests; and finally to Professors Franz Boas and R. S. Woodworth of Columbia University, under whose general direction this study was undertaken, and whose advice and criticism have been of constant value.

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A Study of Psychological Differences Between "Racial" and National Groups in Europe

CHAPTER I

INTRODUCTION—HISTORICAL BACKGROUND

A. *Previous Studies*

Studies of European groups in America, made by American psychologists with intelligence tests, have shown a certain unanimity in their results and in their conclusions. The most important single study is that made by the Army testers during the World War. The results of that study are too well known to require more than passing comment here; the accompanying Table gives the Mental Ages of various immigrant groups, as computed by Brigham from the Army data. (See Brigham (3) and Army Memoirs (1).)

TABLE I.

MENTAL AGES OF IMMIGRANT GROUPS (Brigham).

England	14.87	Belgium	12.79
Scotland	14.34	Ireland	12.32
Holland	14.32	Austria	12.27
Germany	13.88	Turkey	12.02
Denmark	13.69	Greece	11.90
Canada	13.66	Russia	11.34
Sweden	13.30	Italy	11.01
Norway	12.98	Poland	10.74

A number of studies followed which showed, with minor variations, a rather consistent tendency to rank the various groups of European origin in much the same order. The following studies may be taken as representative.

Feingold (9) tested American-born children of immigrant parents, and reported the Intelligence Quotients among Freshmen in the Hartford Public High School.

TABLE II.

FEINGOLD'S RESULTS.

Group	*Average I. Q.*	*Number of Cases*
English and Scotch	105	76
Native American	103	892
Jewish	103	518
German	103	86
Danish and Swedish	102	114
French	98	35
Irish	98	278
Polish	97	90
Italian	97	206

Goodenough (13) gave the Goodenough Intelligence Test ("Drawing a Man") to White and Oriental school children in California, Negroes in California and in the South, and American Indians in the Hoopa Valley Indian School.

TABLE III.

GOODENOUGH'S RESULTS.

Group	*Average I. Q.*	*Number of Cases*
Jewish	106.1	55
Chinese	104.1	25
Scandinavian	103.5	31
Japanese	101.9	42
American	101.5	500
German	101.1	29
English and Scotch	100.2	14
Portuguese	94.5	11
French and Swiss	94.5	14
Slavonian and Serbian	92.8	29
Armenian	92.3	103
Italian	89.1	456
Spanish-Mexican	88.5	367
California Negroes	85.8	69
Indians	85.6	79
Southern Negroes	78.7	613

Hirsch (15) made a study of children of various nationalities in four Massachusetts mill-towns, using the Pintner-Cunningham and the Dearborn A and C tests, all of them at least partly non-language tests.

Kirkpatrick (18), using the Illinois intelligence test on children of immigrant parentage in certain small towns in Massachusetts, found that the American group had an I.Q. of 104, the Finns 100, French-Canadians 87, and Italians 83. Brown (5) obtained a Binet I.Q. of 102 for English, German and Slavic groups, 95 for a French group, and 90 for a Fin-

TABLE IV.

HIRSCH'S RESULTS.

Group	*Average I. Q.*	*Number of Cases*
Polish Jews	102.8	75
Swedes	102.1	232
English	100.7	213
Russian Jews	99.5	627
Germans	98.5	190
Americans	98.3	1,030
Lithuanians	97.4	468
Irish	95.9	214
British Canadians	93.8	115
Russians	90.0	90
Poles	89.6	227
Greeks	87.8	270
Italians	85.3	350
French Canadians	85.3	243
Negroes	84.6	449
Portuguese	82.7	671

nish group. Pintner (24) summarizes these and other results as follows,—"The national or racial samplings that test high are the Jewish, the English and Scotch. Those that test around the average are the German, Scandinavian, Bohemian, Chinese and Japanese. Those that test low are the Italian, Polish, Portuguese, French Canadian, Mexican and American Indian." (p. 467.)

(For summaries of experimental studies in racial and national differences see Pintner (24), Ch. XXI; Garth (11) and (12), Witty and Lehman (30).)

B. *Some Criticisms*

These findings, and the conclusions drawn from them, have frequently been challenged on the ground that there is no way of knowing to what extent factors of training and background enter into the results. (See Ch. III.) Apart, however, from the problem of "what the tests test," there are two objections which have rightly been levelled against the conclusion that there are racial or national differences in the "intelligence" of European groups.

In the first place, the inference from the standing of these immigrant groups, or their children, to the degree of "intelligence" of the various European groups from which they came, was subject to one very obvious criticism. There was always the possibility that the different groups of immigrants were not equally fair samplings of the parent populations in Europe.

The superiority of Scandinavian over Italian immigrants was no proof of the superiority of Scandinavians over Italians, unless and until it could be shown that both groups were equally well represented by those of their number who had left for America. If for example the Scandinavians who migrated were a superior group compared with those who stayed behind, while among the Italians it was an inferior group which migrated, the conclusion that the parent populations differed in the same way as did the respective immigrant groups in America would hardly be justified.

Pintner (24) makes this point. "It would seem as if the forces attracting various national groups to this country have differed from group to group, resulting in now a superior group from one country and now an inferior group from another. The northern European nations seem to be represented by a sampling in this country of relatively good intelligence; the southern European nations by relatively poor intelligence. Whether the sampling in this country represents the nations in Europe, we cannot tell." (p. 467.)

Hankins (14) writes, "It would appear that the larger proportions of our recent immigrants have come from the less successful rather than the more successful classes of their own countries . . . . Our immigrants are not fair samples of their respective nationalities." (pp. 325-326.)

The present study attempts to meet this criticism, and to test its importance, by making its comparisons among the parent European groups *in Europe*, and by taking from these, as far as possible, unselected and representative samples of the general population of certain European countries.

A second important criticism has legitimately been directed against the inference from national to *racial* differences, i.e., from differences between the various European national groups, to differences between the races which enter into their composition. Brigham (3) has been the special target for this criticism. His argument runs about as follows: In Table 9 (pp. 120, 121) he gives the distribution of mental age scores, on the combined scale which he uses, of men born in each country. In Table 33 (p. 159) he gives tentative estimates of the proportion of Nordic, Alpine and Mediterranean blood in each of the European countries from which the immigrants came. For example, Germany is estimated as being 40% Nordic and 60% Alpine; Italy is 5% Nordic, 25% Alpine, and 70% Mediterranean; Sweden is 100% Nordic; Russia is 95% Alpine and 5% Nordic; and so on. (Exception could of course be taken to many of these percentages.) Then "in order to obtain an estimate of the intelligence of the three European races in this country, the distributions of the intelligence scores on the combined scale given in Table 9 were cut according to the proportions given in Table 33, and recombined into Nordic, Alpine and Mediterranean groups." (p. 168.)

The results are shown in Table 36. (Brigham p. 169.) The "Nordic" group has a mental age of 13.28; the "Alpine" 11.67; and the "Mediterranean" 11.43. The differences are all reliable, and the superiority of the "Nordic" over the other two groups is many times greater than it need be in order to be completely reliable.

From the anthropological point of view, however, such an inference from national to racial differences is hardly permissible. As Lowie (21) says, "with a given Italian we do not know the proportion of Alpine and Mediterranean, and possibly Nordic, blood." (p. 29.) A brief review of the racial composition of European nations should make the relationship between race and nation in Europe clearer, and illustrate the difficulty of inferring from one to the other.

C. *Race and Nation in Europe*

Kroeber (20) gives a convenient summary, which at least applies to central and western Europe, though it perhaps does not include all European types. "The three European races are the Nordic, Alpine, and the Mediterranean. . . . They occupy horizontal belts on the map. Beginning with the Nordic and ending with the Mediterranean they may be described as successively darker skinned, darker eyed, darker haired, and shorter in stature. The Alpine race, which lies between the two others, is, however, more than a mere transition; for it is broad-headed,* whereas the Nordic and Mediterranean are both narrow- or long-headed. The Nordic type is essentially distributed around the Baltic and North Seas. The Mediterranean race occupies the shores of the Mediterranean Sea, in Asia and Africa as well as in Europe." (p. 43.)

---

* The relationship between the length and the breadth of the head is referred to as the "cephalic index." An index of 70 means that the breadth is 70% of the length. An index above 80 is usually taken to indicate brachycephaly [round or broad head]; an index below 75 indicates dolichocephaly [long or narrow head]; an index between 75 and 80 is spoken of as mesocephaly. The typical Alpine is round-headed or brachycephalic; the typical Nordic or Mediterranean is dolichocephalic and often mesocephalic. Kroeber [20, p. 37, note] writes that groups frequently spoken of as long-headed are often really mesocephalic, and advocates that the limits for dolichocephaly be raised slightly.

The Nordic type has a long head, a long face, light-colored hair and light eyes (blue or gray) and tall stature; the Alpine has a round head and a broad face, brown hair, hazel-gray or brown eyes, and medium stature; the Mediterranean has a long head, a long face, dark brown or black hair, dark eyes, and a slightly shorter stature. (See Kroeber [20, p. 41]; Ripley, [28, p. 121].)

Nowhere in Europe are "pure" types, that is, types showing the combination of all the typical characteristics of any one of these races, found in any profusion. Even in Nordic Sweden the proportion of "pure" types is relatively small (Retzius, [27]). In one sense, therefore, we ought not to speak of European "races," since strictly speaking a race represents a body of individuals all of whom partake of certain traits (see Boas [2], p. 20)—and we find no such groups in Europe. There are, however, marked differences in the frequency with which various traits are found in different localities. For example, Keith (17), after referring to the confusion of races in Europe, writes "we still recognize some order in the racial pattern of Europe—a zone of long-headed swarthy peoples in the south, long-headed more or less fair people in the north, while the intervening areas are occupied by peoples with various types of round-heads and various degrees of colouring." (p. 318.)

The Nordic or North European or Teutonic type (the term type seems to me to be preferable to "race" here) is found in relatively large numbers in the Scandinavian countries, in England and Scotland, Holland, northern Germany, the Flemish portion of Belgium, northern France, etc. The Alpine type predominates in Switzerland, Austria, southern Germany, the Walloon half of Belgium, central France, northern Italy, Russia, Poland, etc. The Mediterranean type predominates in Spain and Portugal, Greece, southern Italy including Sicily and Sardinia, southern France, and north Africa.

As Kroeber (20) writes "It must be clearly understood that these races have nothing to do with the modern political nationalities of Europe. Northern Germany is prevailingly Nordic, southern Germany, Alpine. Northern Italy is Alpine, the rest of the peninsula Mediterranean. All three races are definitely represented in France." (p. 43.)

If our Italian immigrants come mainly from southern Italy, they will be mostly of the Mediterranean type; if they are from the north, they will be mainly Alpine. If the bulk of the German immigration comes from south Germany, there will be a larger Alpine component among the German-Americans than among the Germans themselves. The difficulties in the way of inferring anything, as regards "racial" differences, from the differences between European immigrant groups in America, are now apparent. It is quite impossible to say, as Brigham does, that the German sample in America is 60% Alpine and 40% Nordic without knowing very much more about the physical characters and the exact geographical origin of the particular sample studied in America. For all any of the testers, or Brigham himself, knew, the German group might have been 80% Alpine or 80% Nordic; the Italian group might have been 70% Alpine instead of 70% Mediterranean.

We know nothing of the racial composition of the Italians actually tested in this country, and we know nothing about the relative standing in the tests of the various racial components of the Italian sample. It is quite arbitrary to assume that these various components did equally well, so that the scores might be redistributed on the basis of the numerical relation (itself very tentative) between the various components of the total Italian population. The same holds for the other groups. It may be that the Alpine component of the German group did very much better than the Nordic, in which case there would be no justification for treating the German group as a unit, and assuming that both groups of Germans did equally well. This general procedure is really inconsistent with Brigham's own view that there are racial differences in intelligence, since these differences should hold between the various racial components of one and the same nation. The whole relation between score, immigrant sample, nation and "race" is far too complex to be treated as easily as Brigham seems, or seemed, to imagine.

It is significant that Brigham himself has withdrawn completely from his earlier position. In a recent article (4) he discusses some of the objections against the use of Army Alpha and the Combined Scale in judging the intelligence of the various national and racial groups. He concludes, "If the Army Alpha test has thus been shown to be internally inconsistent to such a degree, then it is absurd to go beyond this point and combine alpha, beta, the Stanford-Binet and the individual performance tests in the so-called 'combined scale,' or to regard a combined scale derived from one test or complex of tests as equivalent to that derived from another test or another complex of tests. As this method was used by the writer in his earlier analysis of the army tests as applied to samples of the foreign-born in the draft, that study with its entire hypothetical superstructure of racial differences collapses completely." (p. 164.)

The writer feels that he owes Professor Brigham an apology for attacking a position which Brigham himself no longer defends. The excuse for this "attack" is that Brigham's earlier position attracted very wide attention, was widely quoted, and is still frequently appealed to in any discussion of racial differences. In addition, the present criticism is based not so much upon an internal examination of the test itself (although the writer would accept Brigham's excellent analysis) as upon the character of the groups studied, and may therefore not be entirely pointless in spite of Brigham's "recantation." Even if the Army Alpha, or any other test, were proven to be a perfect instrument for the measurement of intelligence, it would still be impossible to make this direct inference from national to racial differences.

CHAPTER II

THE SUBJECTS

A. *Factors Determining the Selection of Subjects*

For the reasons discussed in the last chapter, the writer felt that it would be worth while to make the attempt to obtain as "pure" samples as possible of the three European "races." As Hankins (14) says, "One can see no reason why the general intelligence of considerable groups of *relatively pure* Nordics, Alpines and Mediterraneans might not be determined by the cooperation of anthropologists and psychologists. By selecting areas where the types are purest and selecting in such areas those individuals who are closest to type, allowing for adequate range of variation, much light could be thrown on this problem." (p. 326.)

The present writer (who only saw Hankins' book after the completion of this study) attempted just what Hankins suggested, though within the narrow limits imposed upon a single investigator working with individual tests,—and also with certain mental reservations as to "general intelligence." Three countries were chosen for this work,—France, Germany and Italy, because each one of these is made up of at least two of the three European "races" (France of all three) so that comparisons might be made between different racial groups within the same nation, as well as between different samples of the same racial group.

This method of intra-racial and intra-national comparison, or the method of studying the variations between different samples of the same racial or national group, seems to the writer to be most important, and will be stressed in what follows. It is essential to compare groups of the same racial origin living in environments which differ, in order to study the modifying influence of that environmental difference. Substantially the same point is made by Peterson and Lanier in a recent monograph (23). "A useful check on the reliability of a given race difference obtained in any locality and under any specific set of circumstances is to take what seem to be fairly representative samplings from widely different environments and to compare the various results as checks upon one another with a view to determining just which factors persistently yield differences in favor of one or the other race." (p. 5.)

It was decided that the "racial" comparisons had better be made between rural groups, because in the large cities the mixture of types is so great as to obscure the character of the constituent elements; samples were also taken of city groups, however, in order to make comparisons between rural and urban groups possible. The subjects were all boys, ranging in age from ten to twelve,—that is they had passed their tenth, but had not yet reached their thirteenth birthday. This choice of subjects did away with the necessity of taking possible sex differences into account; it gave subjects old enough to handle with comparative ease, but also young enough to rule out any possible selective effect which might cause some to leave school and others to stay behind; and the range from ten to twelve made it considerably easier to find subjects who satisfied all the requirements than if only a single age-group had been selected.

It was decided that a relative "purity" of racial sampling might be attained by choosing the subjects according to three distinct criteria used in combination. In the first place the study was pursued in those geographical areas in which, according to the maps of the distribution of various traits, the physical characteristics of the "race" being studied were to be found in greatest profusion; secondly only those subjects were chosen for study who themselves had been born in the particular area under investigation, and both of whose parents, as far as could be ascertained, had also been born in that area; and finally, only those subjects were chosen for study who possessed the physical characteristics accepted as typical for that particular "race."

In the choice of the specific locality in which the study should be made, the anthropological maps were the decisive factor. For example, in choosing for study a Nordic group in France, the attempt was made to reach that group which showed the most important characteristics,—tall stature, blondness, and dolichocephaly,—in greatest abundance. A glance at Ripley's maps of the distribution of the cephalic index (Ripley (28) p. 138; after Collignon and Houzé), of stature (p. 143, after Broca), and pigmentation (p. 147; after

Topinard) in France shows that Flanders, in the extreme north of France near the Belgian border, best satisfies these requirements. Normandy shows just as much blondness and just as high stature as Flanders, but not quite such marked dolichocephaly. Flanders was therefore chosen as the French Nordic area.

In the same way the region of the Puy de Dôme (Auvergne and Velay) in south-central France was chosen as the French Alpine area, because of the high frequency of brachycephaly, combined with moderate stature and moderate pigmentation. Ripley says that the Alpine broad-headed type is quite unmixed in Auvergne (loc. cit. p. 139).

The region of the eastern Pyrenees (Pyrénées Orientales) in the extreme south of France, near the Mediterranean Sea and bordering upon Spain, was found to have the greatest frequency of long-headedness, combined with marked brunetness and short stature, and was chosen as the French Mediterranean area.

The three localities in France were, therefore, French Flanders, in the vicinity of Dunkirk and Hazebrouck, for the Nordic group; Auvergne and Velay, in the vicinity of Le Puy, for the Alpine; and the Pyrénées Orientales, near Perpignan, for the Mediterranean.

Two areas were visited in Germany. Ripley describes the racial pattern of Germany as follows (p. 214). "Northwestern Germany,—Hanover, Schleswig-Holstein, Westphalia,—is distinctly allied to the physical type of the Swedes, Norwegians and Danes. All the remainder of the Empire . . . is less Teutonic (i.e., Nordic) in type; until finally in the essentially broad-headed populations of Baden, Würtemberg, and Bavaria in the south the Teutonic race passes from view."

Ripley's map of the frequency of brunette types (p. 223; after Ranke) shows Hanover to be relatively blonde and Baden relatively dark. Hanover is also definitely dolichocephalic, and "Hanover and Oldenburg . . . probably possess the greatest stature of the whole of north Germany." (See Pittard (26), p. 165.) The German Nordic area finally decided upon was in the province of Hanover, in and around Fallingbostel,—the region of the "Lüneburger Heide." The German Alpine group was studied in the Black Forest in the province of Baden. Pittard (loc. cit. p. 171) following Am-

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mon, writes that "in the old Grand Duchy of Baden the cephalic indices taken by regions go from sub-brachycephaly to the most definite brachycephaly in the Black Forest zone. . . . The district of Wolfach . . . is even hyperbrachycephalic." It was this district of Wolfach, and the neighboring one of Peterstal, also in the Black Forest, which were chosen for the Alpine sample.

As for Italy, Ripley's reproductions of Livi's maps of the cephalic index (p. 251), pigmentation (p. 253) and stature (p. 255) show how brachycephaly, blondness and tall stature predominate (relatively) in the Alpine north, and dolichocephaly, brunetness, and short stature in the Mediterranean south. For the Italian Alpine group the province of Piedmont, in the vicinity of Turin, was chosen. Ripley writes "The basin of the Po is peopled by an ethnic type which is manifestly broad-headed. This Alpine racial characteristic is intensified all along the northern frontier. In proportion as one penetrates the mountains this phenomenon becomes more marked. It culminates in Piedmont along the frontier of France. Here . . . is the purest representation of the Alpine race on the continent." (p. 250.)

The country near Palermo, in Sicily, was chosen to represent the Mediterraneans. This island shows the combination of brunetness, short stature and dolichocephaly to a marked degree, but not quite as frequently as the island of Sardinia. It was hoped that half the Mediterranean sample might be obtained from Sardinia, but the pressure of time, and the relative inaccessibility of that island, rendered this impossible.

This gave seven "racial" groups,—two Nordic, three Alpine, and two Mediterranean. In every case the schools in the small communities were visited, after proper authorisation had been received from the local school superintendent. No community with a population over 3000 was visited; this was arbitrarily taken as the upper limit for a "rural" community. The usual procedure was to take into another room the boys ranging in age from ten to twelve. Those boys born outside the particular community being studied, or either of whose parents had been born outside that community, were sent back to the class as "unfit." Then those boys who were seen by casual observation to possess physical characteristics which were not "typical" for their group, i.e., those boys in a "Nordic" community who had dark hair or dark eyes, or those boys in a Mediterranean community who had fair hair or blue eyes were also immediately rejected. (The writer still remembers the look of utter bewilderment on the face of one little fellow in a north German village who was sent back to his class by the teacher with the words, "Du taugst nicht; du hast braune Augen." "You're no good; you have brown eyes.") Finally the head measurements were taken, and the cephalic index computed for each boy, and only those were left for testing who, in addition to satisfying the other criteria, had cephalic indices which fell within the limits for their group. As a result every subject in the Nordic group had fair hair, blue or light gray eyes, and was dolichocephalic. (An index of 80 or less was regarded as dolichocephalic; 81 or more brachycephalic. This put some mesocephalic cases in the dolichocephalic group; many anthropologists [for example, Sergi] accept mesocephaly as still "typical" of Nordics and Mediterraneans. The slight compromise was made after measurements of the Hamburg group showed true dolichocephaly to be relatively rare. In any case there was no overlapping whatever between the "dolichocephalic" and "brachycephalic" groups.) Every subject in the Alpine group was brachycephalic, and was neither very fair nor very dark. Every Mediterranean subject had brown or black hair, dark eyes, and was dolichocephalic. The criterion of stature was disregarded as obviously inapplicable in the case of young boys. In each of the seven "racial" groups one hundred boys were tested.

B. *Detailed Description of the Seven Rural Groups*

1. GERMAN NORDIC

Province: Hanover.
Region: the Lüneburger Heide, near Fallingbostel.
Number of villages visited: 17.
Characteristics: fair hair, blue or light gray eyes.
Cephalic Index: Range, 73.4-80.8.
Median, 78.0.
Q, 1.65.

Age: Range, 10.0-12.11.
Median, 11.8.
Q, 9 months.

Principal Occupations: peasant and farmer, 34.
day laborer, 26.

2. FRENCH NORDIC

Province: Flanders.
Region: Dunkirk and Hazebrouck.
Number of villages visited: 13.
Characteristics: fair hair, blue or light gray eyes.
Cephalic Index: Range, 72.2-80.6.
Median, 78.1.
Q, 1.75.

Age: Range, 10.0-12.11.
Median, 11.6.
Q, 7.5 months.

Principal Occupations: peasant and farmer, 38.
laborer, 34.

3. GERMAN ALPINE

Province: Baden.
Region: Black Forest, Peterstal and Wolfach.
Number of villages visited: 10.
Characteristics: moderately fair to moderately dark; brown or gray eyes.
Cephalic Index: Range, 82.2-94.3.
Median, 86.9.
Q, 1.85.

Age: Range, 10.0-12.11.
Median, 11.8.
Q, 9 months.

Principal Occupations: laborer, 22.
peasant, 19.
wood-cutter, 17.

4. FRENCH ALPINE

Province: Auvergne and Velay, Massif Central.
Region: Le Puy.
Number of villages visited: 19.
Characteristics: see German Alpine.
Cephalic Index: Range, 84.4-97.7.
Median, 89.1.
Q, 1.4.

Age: Range, 10.0-12.11.
Median, 11.55.
Q, 9 months.
Principal Occupations: peasant, 58.
laborer, 8.

5. ITALIAN ALPINE
Province: Piedmont.
Region: vicinity of Turin.
Number of villages visited: 10.
Characteristics: see German Alpine.
Cephalic Index: Range, 81.7-96.5.
Median, 87.5.
Q, 2.0.
Age: Range, 10.0-12.11.
Median, 11.5.
Q, 9.5 months.
Principal Occupations: peasant, 37.
factory employee, 19.

6. FRENCH MEDITERRANEAN.
Province: Eastern Pyrenees.
Region: vicinity of Perpignan.
Number of villages visited: 12.
Characteristics: dark hair, dark (brown) eyes.
Cephalic Index: Range, 71.4-80.7.
Median, 77.8.
Q, 1.9.
Age: Range, 10.0-12.10.
Median, 11.7.
Q, 6 months.
Principal Occupations: peasant (including vines), 29.
laborer, 15.
fisherman, 7.
sailor, 7.

7. ITALIAN MEDITERRANEAN
Province: Sicily.
Region: vicinity of Palermo.
Number of villages: 9.
Characteristics: see French Mediterranean.
Cephalic Index: Range, 70.4-80.6.
Median, 77.3.
Q, 1.9.

Age: Range, 10.0-12.11.
Median, 11.75.
Q, 8.5 months.

Principal Occupations: peasant, 20.
fruit dealer, 13.
laborer, 7.
cattle dealer, 7.

C. *Discussion of the Criteria*

The writer does not wish to give the impression that he believes his three criteria have enabled him to select, for example, two Nordic groups which are racially identical in every particular. The racial composition of any European group is far too complicated to permit such a conclusion. The use of all three criteria together, however, at least makes it possible for him to approach similarity in descent more closely than has been the case in previous studies. The use of physical characteristics alone would not suffice; for example there are very blonde dolichocephalic persons in northern Italy who are by no means pure Nordic; if the experiment could be performed of mating them with other blonde dolichocephalic northern Italians, a great many brachycephalic persons would be found in the next generation.

Boas writes: "If we pick out short-headed individuals among the Swedes, short-headedness may be an individual non-hereditary trait. Furthermore the general run of their relatives will be similar to the long-headed Swedish type and since the form of the offspring depends not only upon the parent, but also upon the characteristics of his whole family line, at least of his four grandparents, a reversion to the general population may be expected. . . . We must conclude that individuals of the same bodily appearance, if sprung from populations of distinct type, are functionally not the same. For this reason it is quite unjustifiable to select from a population a certain type and claim that it is identical with the corresponding type of another population. Each individual must be studied as a member of the group from which he has sprung." (Boas, 2, pp. 29-30.)

For this reason the techniques used both by Hirsch and by Estabrooks in their comparison of "racial" groups is open to considerable question. Hirsch (15) subdivided his various national and "natio-racial" groups into blonde, mixed, and brunette types, on the basis of hair and eye coloration. He argued that if the Nordics were really superior, the blonde type within any nation should be superior to the mixed and brunette types within the same nation. He found no such superiority, and concluded that there were no "racial differences." Estabrooks (7) used head indices as criteria of race (thereby lumping "Nordics" and "Mediterraneans" together), worked out correlations between head indices and intelligence test results, and obtained no correlation between "race" and intelligence. Both these writers committed the error against which Boas warns,—"to select from a population a certain type and claim that it is identical with the corresponding type of another population."

The writer's use of the known distribution of physical characters in the three countries, and the place of birth, not only of the subjects themselves but also of their parents, in addition to the physical character of the subjects, as criteria of "race," does however increase the likelihood that there is a substantial identity in the racial composition of the two Nordic groups,—at least as substantial an identity as can at present be obtained in view of the complexity of racial inheritance in Europe; the same would hold for the Alpine and Mediterranean samples.

D. *The Three City Groups*

In addition three city groups were studied, in Paris, Hamburg and Rome. In each case one hundred boys were tested, and the attempt was, of course, made to have the selection as random as possible. Four different schools in each city were visited, and in each case the principal of the school was asked to cooperate in making the sample a representative one by sending the boys to be tested in alphabetical order until twenty-five subjects had been tested. Note was kept of the physical characteristics and the cephalic index of every subject, but the only criterion which the subject had to satisfy was that he be born in the city in which the study was being made at the time. A brief description of the three city groups follows.

PARIS
Characteristics: Nordic type, 15.
Alpine type, 21.
Mediterranean type, 25.
Mixed types, 39.
Cephalic Index: Range, 74.5-89.4.
Median, 82.3.
Q, 2.5.
Age: Range, 10.0-12.11.
Median, 11.7.
Q, 8.5 months.
Principal Occupations: mechanic, 16.
clerk, 12.
laborer, 5.
cab-driver, 4.
waiter, 4

HAMBURG
Characteristics: Nordic type, 37.
Alpine type, 10.
Mediterranean type, 9.
Mixed types, 44.
Cephalic Index: Range, 74.5-92.0.
Median, 81.3.
Q, 2.6.
Age: Range, 10.1-12.11.
Median, 11.7.
Q, 7.5 months.
Principal Occupations: laborer, 18.
merchant, 17.
clerk and office employee, 18.

ROME
Characteristics: Nordic type, 8.
Alpine type, 20.
Mediterranean type, 35.
Mixed, 37.
Cephalic Index: Range, 72.7-89.2.
Median, 80.0.
Q, 2.7.
Age: Range, 10.0-12.11.
Median, 11.6.
Q, 8.5 months.

Principal Occupations: clerk and office employee, 13.
merchant, 9.
laborer, 6.
factory hand, 6.

The various comparisons made possible by choosing these ten groups will be considered in Chapter 4.

CHAPTER III

THE TESTS

The use of psychological tests in the study of differences between groups has been subjected to a great deal of pertinent criticism. It has been pointed out (Garth, 11) (Klineberg, 19) (Lowie, 21) (Witty and Lehman, 30) that so many factors may enter into the performance that the interpretation of the results will always be open to considerable question. The factors of language, education, general cultural background, social and economic status, motivation, relation between experimenter and subject, selection of subjects, and so forth, all make it difficult, if not impossible, to know just what the results mean. Even within the same racial and cultural group the interpretation of test results is by no means simple; when group differences also enter, the task would seem to be hopeless.

One writer (Estabrooks, 8) speaks of "The Enigma of Racial Intelligence," and is of the opinion that "the investigation of racial differences in intelligence has virtually arrived at a position of checkmate. We not only cannot speak with authority on the subject, but it seems almost impossible to devise any technique which will yield valid results. . . . What the future may have in store none can tell, but at present we are simply blocked, which is about all that can be said on the matter. . . . We cannot measure intelligence under different environmental conditions with any assurity that we are getting comparable results." (p. 137.)

This is hardly the occasion for a discussion of tests and their significance. (The reader is referred to Pintner [24, esp. Chs. 4 and 5] for a general analysis and to Hull [16a, p. 62] for a more detailed criticism.) There is evidently no agreement between psychologists as to the nature of "intelligence," and the degree to which "intelligence" is measured by the tests. Speaking most conservatively, however, it may still be said that the tests present the subject with a group of problems, and that the results indicate his ability to solve these problems. There is considerable evidence to show that certain groups solve these problems more quickly and more successfully than other groups. It is not quite clear why there should be this difference. One theory is that the different degree of ability in these problems is due to a difference in *race,* that is to say, that there is an hereditary basis for the difference, determined by the racial stock to which the group belongs. This is the theory that is being tested in this study. In other words, this study is concerned with possible racial differences in the ability to solve the problems presented by certain intelligence tests; the relation between this ability and general intelligence, whatever that may be, is in the meantime left entirely open.

For this study the writer chose a group of six performance tests in the Pintner-Paterson series,—the Triangle Test, the Healy Form Board A, the Two Figure Board, the Five Figure Board, the Casuist Form Board, and the Knox Cube Test. With the exception of the last they are all form boards in which the task is to put the blocks of wood together in such a way as to fill the cut-outs in the board. A record is kept of the time taken to complete the tests and of the number of moves or errors made in the process. There is a five-minute time limit for each of these tests. In the Knox Cube Test, four cubes are placed on the table in front of the subject, and the examiner taps the blocks with the fifth cube in a certain definite order and at a certain definite rate. The subject attempts to do the same, and a record is kept of the number of movement-combinations repeated correctly. (For a detailed description of these tests see Pintner and Paterson [25].)

These tests had the advantage of being non-language tests, obviously a very important consideration in a study of this kind. The fact that they were individual tests naturally lengthened the amount of time required for their administration, but gave the writer an opportunity to observe and note certain qualitative differences in the way the various subjects and the various groups reacted to the test situation. These differences are described in later sections of this monograph. It may be noted, too, that in the study of group differences the use of individual tests can be of great advantage in creating a proper rapport between tester and subject, and in supplying the subject with adequate motivation to do his best with the test.

Even performance tests require some language for their administration. The writer began his study knowing French, a little German, and no Italian. He found his French adequate for testing purposes; in the case of the other two languages he enlisted the aid of university students, in Hamburg and Rome respectively, who administered the tests under his direction while he kept all the records. When the time came for the tests to be given in the rural districts, he was well enough acquainted with both German and Italian to manage the testing by himself. He feels quite convinced that the need to use a foreign language in administering the tests did not appreciably affect his findings.

CHAPTER IV

THE RESULTS—"GENERAL INTELLIGENCE"

A. *The Ten Groups*

For every subject the scores obtained on the six tests were combined on the basis of the Point Scale (Pintner and Paterson, p. 176) which is the simplest and probably the most satisfactory of the methods which the Manual describes; the "general intelligence" of each subject is indicated by the total number of points which he receives. The following Table gives the results for the ten groups.

Group	*Aver.*	*Median*	*Range*	*S.D.*	*S.D. Av.*	*N*
Paris	219.0	218.9	100-302	46.2	4.62	100
Hamburg	216.4	218.3	105-322	45.6	4.56	100
Rome	211.8	213.6	109-313	42.6	4.26	100
German Nordic	198.2	197.6	69-289	49.0	4.90	100
French Mediterranean	197.4	204.4	71-271	45.6	4.56	100
German Alpine	193.6	199.0	80-211	48.0	4.80	100
Italian Alpine	188.8	186.3	69-306	48.4	4.84	100
French Alpine	180.2	185.3	72-296	46.6	4.66	100
French Nordic	178.8	183.3	63-314	56.4	5.64	100
Italian Mediterranean	173.0	172.7	69-308	54.2	5.42	100

B. *City and Country*

There is a clear and consistent difference between city and country children. The first three groups in order of merit are the three city groups,—Paris, Hamburg, and Rome. Between these three groups the differences are small and unreliable, the largest difference, that between Paris and Rome, having only 87 chances in 100 of being a true difference. On the other hand the difference between the poorest city group and the best country group is almost statistically reliable, the chances being 98 in 100 that there is a true difference.

When the city and country groups are compared as wholes, disregarding racial and national origins, this difference becomes even more apparent.

Group	*Aver.*	*Median*	*Range*	*S.D.*	*S.D. Av.*	*N*
City	215.7	216.9	100-322	45.1	2.6	300
Country	187.1	187.0	63-314	50.9	1.9	700

This difference is more than eight times the sigma of the difference, and almost three times as large as it need be in order to be statistically reliable. It is by far the largest and most reliable difference obtained between the combined groups.

This finding is in agreement with results obtained by other investigators with standard intelligence tests. Shimberg (29) summarizes the comparative studies of rural and urban children in the statement that "everyone agrees in favoring the urban child as far as mentality and school achievement is concerned," and Pintner (24) after a similar summary says that "in general it would appear as if the urban districts rate higher than the rural districts." There may be considerable doubt as to the interpretation of these results, as Shimberg points out, but there is almost complete agreement as to the results themselves.

The present study indicates that even with performance tests city children are definitely superior. In terms of overlapping, for example, only 30.12% of the country children reached or exceeded the median for the city children. The differences between racial and national groups, as will appear later, are not nearly as significant, and it can reasonably be said that in any prognosis or diagnosis of mental ability as measured by these intelligence tests, the fact that a child comes from the city or the country, as the case may be, is much more important than his racial or national origin.

C. *"Race"*

With regard to "race" the primary interest of this study was to see whether the results offer any substantiation of the theory of the superiority of the Nordics. If the *averages* of the seven "racial" (country) groups are considered, it will be seen that the best group is the German Nordic (Hanoverian) group, and the poorest the Italian Mediterranean (Sicilian). Closer examination shows, however, that the Nordic-Alpine-Mediterranean hierarchy is by no means maintained consistently. The second group, separated by a fraction of a point, is the French Mediterranean (Catalan) group; then come the three Alpine groups; and only then the other Nordic group (French Flanders). Moreover, when *medians* instead of averages are used in the comparisons, the best country group is the French Mediterranean, then comes the German Alpine (Black Forest) group, and only then the German Nordics,—all of which indicates, as does also the very small reliability of the differences between these three groups (not more than 75 chances in 100) that the German Nordics, the French Mediterraneans, and the German Alpines tested in this study, representing three different races and two nations, should be regarded as equal.

It is important to note the wide differences between different samples of the same "race."

	Average	*Median*
French Mediterraneans	197.4	204.4
Italian Mediterraneans	173.0	172.7
German Nordics	198.2	197.8
French Nordics	178.8	183.3
German Alpines	193.6	199.0
Italian Alpines	188.8	186.3
French Alpines	180.2	185.3

There is a completely reliable difference between the French and Italian Mediterraneans, and an almost completely reliable difference (99.5 chances in 100) between the German and French Nordics, and between German and French Alpines (98 chances in 100). Within every one of the three "races," therefore, the variability is great, even when such few samples are taken for comparison. These marked intra-racial variations indicate that the concept of "race" is quite incapable of explaining the results, since one and the same racial group will show up very differently depending upon which sample is taken as representative.

This point becomes quite clear when the comparison is made between the various racial groups within the same nation.

	Average	*Median*
German Nordics	198.2	197.8
German Alpines	193.6	199.0
Italian Alpines	188.8	186.3
Italian Mediterraneans	173.0	172.7
French Mediterraneans	197.4	204.4
French Alpines	180.2	185.3
French Nordics	178.8	183.3

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In Germany there is a slight—but negligible—superiority of the Nordics over the Alpines; in Italy the Alpine group is clearly superior to the Mediterranean; but in France the Mediterranean group is even more clearly superior to both the Nordic and the Alpine groups. In other words, in France the "Nordic-Alpine-Mediterranean" hierarchy is completely reversed, and there is an almost completely reliable difference (99.5 chances in 100) in favor of the Mediterranean over the Nordic average; the difference between the medians is completely reliable. The hierarchy is thus seen to depend on the particular Nordic, Alpine and Mediterranean samples studied.

The poor results obtained by the French Nordic (Flemish) group in this study are in harmony with results reported by Decroly (6). He gave the Ballard test to over 7000 Belgian school children and found the Walloon children to be superior to the Flemish group at almost all ages. It may be noted that the Walloon portion of the Belgian population is predominantly Alpine, and the Flemish portion, which is contiguous to the part of French Flanders visited in this study, predominantly Nordic.

As between the three combined "racial" groups the order, both for averages and medians, is Nordic, Alpine, Mediterranean.

Group	*Aver.*	*Median*	*Range*	*S.D.*	*S.D. Av.*	*N*
Nordic	188.5	190.5	63-314	53.4	3.78	200
Alpine	187.5	190.2	69-306	48.4	2.79	300
Mediterranean	185.2	188.5	69-308	51.8	3.66	200

The differences are insignificant, however, and none of them even approach reliability. The small degree of reliability (between Nordic and Alpine there are 58 chances in 100, and between Nordic and Mediterranean 74 chances in 100 of a true difference) is of course due in part to the small number of cases, but the differences are so small in any case that an increase in the reliability would hardly lend them much significance.

In terms of overlapping the difference between the "races" is also negligible. In fact by this criterion the Mediterranean group shows up somewhat better than the Alpine; 49.01% of the cases reach or exceed the Nordic median; 47.94% of the Alpine cases reach or exceed the Nordic median. Using the

Mediterranean median as a basis the results show that it is reached or exceeded by 51.87% of Nordic, and 49.57% of Alpine subjects. The overlapping is practically complete.

There are no other studies of European "racial" groups with which these results can be directly compared. Brigham's "racial" comparisons were based on an inference, the validity of which is open to question. There are also serious objections to the techniques suggested by Estabrooks and Hirsch, respectively, even though on this point their findings are in complete accord with those reported here. The results of the present study are the only ones, in the knowledge of the writer, which have been obtained by testing European groups directly, selected according to accepted criteria of "race." As far as these results go, the quite insignificant differences between the "races," the wide variations found within the same "race," and the fact that a "racial" hierarchy found in one nation does not hold for another, indicate that the concept of "race" when applied to these European groups has no significance in relation to the kind of differences demonstrated by performance tests in this study.

D. *Nation*

With regard to national differences the case is not quite clear one way or the other. The three city groups do not differ appreciably, but whatever advantage there is favors the French (Paris) group, with the German (Hamburg) group second, and the Italian (Rome) group third. The differences are not reliable; the chances are 89 in 100 that there is a true difference between Paris and Rome. As far as the rural groups are concerned the descending order is German, French, Italian.

Group	*Aver.*	*Median*	*Range*	*S.D.*	*S.D. Av.*	*N*
German (rural)	195.9	198.4	69-299	48.6	3.44	200
French (rural)	185.7	191.0	63-314	50.4	2.91	300
Italian (rural)	180.9	179.8	69-308	52.3	3.70	200

Between the German and the two other groups there is an almost reliable difference between the averages,—99.9 and 99.4 chances in 100, respectively, that there is a true difference. Between the French and Italian groups the difference is relatively small and unreliable,—85 chances in 100 of a true difference. In terms of overlapping, 63.5% of the German subjects reach or exceed the Italian median, and 54.8% reach or exceed the French median; 59.33% of French subjects reach or exceed the Italian median. The averages show a fairly definite superiority of the German over the other two groups, and the medians indicate a superiority of both German and French groups over the Italian. Some argument could at least be made, on the basis of these results, for a real superiority of the German sample, and hence for a true national difference,—at least between the rural groups.

These results agree with the reports of other observers who have worked on immigrant groups in this country. The Army results showed the German group to be superior to the Italian. Hirsch (15) found a similar superiority of German over Italian children. In Goodenough's (13) report the French and Swiss group occupies a position about half-way between the German and Italian. Feingold (9) also places the French group below the German, and slightly above the Italian. Brown (5) finds the French group inferior to the German. The unanimity is quite striking.

More careful analysis of the intra-national variations, however, rather complicates the picture. There is consistency with regard to the two German samples, both of which are definitely superior, and between which the difference is negligible. Within the French and Italian groups, on the other hand, there is much variation. The best French (Mediterranean) group is almost reliably superior to the poorest French (Nordic) group, as was pointed out in the last section; there is a similar superiority of the Italian Alpine over the Italian Mediterranean group.

This intra-national variability makes it difficult to ascribe any very clear and definite significance to the concept of "nation" in connection with the results. The French Mediterranean group resembles the two German groups in achievement much more closely than it does the other French groups; the Italian Alpines score much closer to both German groups and to the French Mediterranean group than they do to the Sicilians. The nations are by no means units as far as the "intelligence" of their component groups is concerned.

This point will become clearer if the results are compared in still another way. The best "racial" group, the German Nordic, had an average of 198.2 points; the poorest, the Italian Mediterranean, 173.0 points,—a difference of 25.2 points. If we take a point exactly half-way between these two scores, namely a score of 185.6, we find four of the country groups above it and three below. The superior half includes both German groups, one French (Mediterranean) and one Italian (Alpine); all three nations and all three races are represented. Within this half the difference between the best and the poorest groups has only 89 chances in 100 of being a true difference. In the inferior half there are the remaining two French groups and the Sicilians. The national groupings show no consistent differences, and it is obvious that the similarities are often closer between samples of different nations than between different samples of the same nation.

Results of this kind make it doubtful whether Hirsch's concept "natio-races" (15) is of any help in clarifying the issue of Race Differences. As a French reviewer of his monograph pointed out (31) there may be and often is a psychological unity which prevails among neighboring groups in different nations much more deep-rooted and thoroughgoing than that which prevails throughout the same nation. "The observed differences are not necessarily national either, as can be seen when comparisons are made between Polish Russians and Russians properly so called, or between north Italians and south Italians. A certain type of intelligence, as of physical features, temperament, and so forth, is characteristic not of a nation, but of a unified group of individuals which can be formed by the integration of several races, as in the case of Germany or France, and not necessarily corresponding to a single country. Italy and Belgium, in which there are groups with their own peculiar characteristics differentiating them more from each other than from neighboring groups, are not natio-races." (p. 422.) It might be added that in this respect France, too, is very far from constituting a "natio-race."

Certainly the French and Italians along the Riviera on both sides of the national boundary resemble each other much more closely, and in a great many more ways, than they do the other groups within their own nation. Such similarities between samples of different nations need not, however, be confined to groups which are geographically contiguous.

There is so much variability between different samples of the same national group, and in many cases so much similarity between samples of different nations, that the evidence for national differences must be regarded as inconclusive.

CHAPTER V

THE INTERPRETATION OF THE RESULTS—HEREDITY AND ENVIRONMENT

The implications of these results for the problem of "heredity versus environment," "nature versus nurture," as it concerns these European groups, are not easy to determine; several points are raised which must await further experimentation and study before the final decision can be made. One thing seems clear, namely that as far as these results go they offer no substantiation of a definite racial hierarchy, and they indicate that the concept of "race" is of no value whatever in explaining the observed differences. It does not follow that the concept of heredity is of no value either. As far as individual differences within one and the same group are concerned, it is impossible to explain away all these differences as due to environmental and cultural factors. There are individuals who differ from other individuals, and family lines which differ from other family lines, and whatever the final decision may be as to the importance or unimportance of heredity in explaining the characteristics of large groups, there are few psychologists or biologists who would agree with the Behaviorists in denying heredity any importance whatever even in the case of individual differences. (On this point see Boas (2) pp. 23-26.)

If heredity operates in the case of individual family lines, there is always the possibility that in small groups, as the result of a certain form of selection and inbreeding, one type of family line may predominate. In time two different small groups may thus come to differ in their heredity. "If a number of families have inter-married for centuries without appreciable addition of foreign blood they will all be closely related and the same ancestral traits will appear in all the families. Brothers and sisters in any one family may be quite unlike among themselves, but all the family lines will have considerable likeness. . . . Conditions of this type prevail among the landowners in small European villages. They are also found in the high nobility of Europe and also among some isolated tribes. The Eskimos of North Greenland, for instance, have been isolated for centuries. Their number can never have exceeded a few hundred. . . . The people all bear a considerable likeness." (Boas (2)).

Can this hereditary "likeness" apply also to psychological characteristics? How small must the community be for some such inbreeding to occur? How large may it be? Can a whole race, or even a large portion of it, be affected?

The present investigation dealt with two Nordic groups, one in German Hanover, one in French Flanders. These two groups differed widely, not only in their performance test results but also, as will develop later, in certain motor and temperamental traits. They are of the same "race"; their physical characteristics are similar. If they are equated for "race," are they thereby equated for heredity,—from which it would follow that whatever differences they show could safely be ascribed to culture and environment? This is a tempting conclusion; unfortunately it cannot as yet be fully justified.

The most that can be said is that there is no evidence for the kind of inbreeding discussed above. These various country groups do not represent single small communities; the German Nordic group, for example represents seventeen different rural communities, scattered within a radius of about twenty miles; the French Nordic group represents thirteen small communities. The chance of having picked by accident a very good or very poor German Nordic sample as the result of certain local peculiarities of heredity and inbreeding are very much smaller than if only one community had been visited. The same holds true of the other groups.

It remains true, however, that the whole history of Hanover,—its conflicts, its industries, its contacts with other peoples,—has of course differed markedly from that of Flanders. This has naturally made a very real "cultural" difference between the two groups; it may also have affected their biological and psychological inheritance. More particularly the contacts with other nations,—Hanover's relations with England, the association of Flanders with what are now Holland and Belgium,—may easily have had this type of influence.

It follows that it is impossible to assume with any certainty an identity in the mental heredity of the two Nordic samples.

Heredity, therefore,—unlike "race,"—cannot be completely ruled out in an interpretation of the differences between the individual groups. On the other hand, there is an interesting parallelism between the results obtained and the general background,—cultural, economic, historical,—of the various groups tested, which lends support to an environmentalist point of view. Such a parallelism may not prove anything conclusively, but it seems to the writer to be suggestive.

In a preceding section reference was made to the great variability occurring between various groups within the same nation, and to the fact that there was a greater consistency within the German than within the other nations. It is obvious that two or even three groups would not suffice if this were truly a study of intra-national variability or consistency, but it is probably no accident that the two German groups differ less among themselves than the French or Italian groups among themselves. All three countries are made up of a number of "nationalities," differing more or less markedly among themselves; this is somewhat less true of Germany, however, than of Italy and France. There is nothing in Germany (with perhaps the exception of Bavaria) which quite parallels the wide diversity, in language and cultural background, between the various French provinces. Flanders, Catalonia, Provence, the Ile de France, Brittany, Normandy, the Basque country, Alsace,—these could easily be just so many different units, instead of parts of the same country.

Interestingly enough there has persisted in many of these sections, notably Brittany, Catalonia, Flanders, Alsace, the Basque country and Provence, quite a feeling of difference and cultural independence from the rest of the country, a feeling in which the wide diversity in language or dialect plays no inconsiderable part. In Brittany meetings are held at odd intervals, usually stimulated by the clergy, to remind the people of their one-time glorious independence, and the effigy of the last Breton sovereign, "Anne de Bretagne," is carried about as a tangible symbol of former greatness. In Flanders, again largely as a result of clerical resentment against the "godlessness" of France, the matter of independence comes up for more than occasional discussion. In Catalonia some influence is exercised by the Spanish Catalans, a powerful group, composed of individuals who wish their independence from the rest of Spain, and who urge the French Catalans to join with them in restoring the nation of the Catalans, once the rulers and principal navigators of a large part of the Mediterranean. In Provence independence has been conceived rather in literary and cultural terms, and is illustrated by the very interesting movement known as the Felibrige, and founded by the poet Mistral who tried to effect a sort of literary Provençal Renaissance.

In Italy the division is not so much into a great many small sections, each with its own specific character,—though this is true to some extent,—as into two great sections, the North and the South, which differ racially, economically, historically, and to a lesser extent linguistically. Piedmont, Lombardy, Liguria, Venetia, etc., constitute one main division; Sicily, Naples and the surrounding country, Apulia, Calabria, Sardinia, etc., make up the other.

These considerations may seem irrelevant in a consideration of test results obtained from school-boys in various country sections of Europe, yet it is more than probable that they have a real bearing. The lack of unity within a country leads, among other things, to a lack of unity in education,—school discipline, educational methods, attendance, expenditures, etc., —and this may quite easily affect even performance test results. Educationally speaking there is, and undoubtedly has been a very much more marked difference between northern and southern Italy than between northern and southern Germany; Sicily, for example, has only very recently, within the present Italian regime or possibly just a little earlier, received any real consideration, educationally speaking, while the fertile valley of the Po in Piedmont has long had excellent educational advantages relatively to most of Italy.

The superior showing of the northern group in Italy is paralleled by its superior economic and cultural situation. The broad plains of Piedmont at the foot of the Alps, where communication is easy, with excellent schools and little illiteracy, with a highly industrialized society, offer a marked contrast to Sicily, which differs from Piedmont on all these points,— poor schools and much illiteracy, little industrialization, and a picturesque mountainous country which may charm the tourist but in which the business of earning a living from the citrous groves is so difficult that for years Sicilians have been trying to leave their homes to find some kind of economic subsistence, even the most meager, in the New World.

Much the same situation exists in Auvergne, in France, where the peasants tell you, when you exclaim over the beauties of the Massif Central, "Yes, it looks all right, but it is no easy matter to make it give you your living." A little farming, pursued under great difficulties on the steep sides of the mountains, and the raising of cattle, supply a very bare livelihood. It is all very well to say that man makes his economic and cultural environment, and is not made by it,—that those who live in a poor environment are themselves inferior,— but there can hardly be any doubt that when the conditions of life are hard there is less money to be spent for schools and books, less leisure for development, and less time for boys who are approaching working age to spend in school and away from work.

The conditions in the "good" groups are not ideal by any means, but there is certainly less actual hardship among them. The industrial development of northern Italy, the farms of Hanover, the lumber of the Black Forest, and the vines and the fishing in the French Catalan country, yield the necessities of life in greater abundance than do the citrous fruits of Sicily or the mountainous soil of Auvergne and Velay. This economic parallelism falls down in the case of only one group, French Flanders, which furnishes a very interesting exception.

French Flanders is by no means a poor country. The fertility of the Flemish plain and the thrift and energy of the people make this section one of the best-cultivated and economically one of the best-developed of all the country districts visited in the course of this study. The Flemish group stood very low, however, in the test results.

It must be borne in mind that "cultural background" is not confined to economic and industrial factors, and there is one interesting aspect of life in Flanders which may have had some bearing upon the results. There is fairly widespread in Flanders a certain feeling of hostility and resentment against the school system, due to the tenacity with which the people cling to the Flemish tongue, the use of which is forbidden in the schools. All linguistic minorities in France may be said to suffer from the same disability, but in Flanders the effect is particularly striking because so few of the teachers are themselves Flemish. Owing to the marked religious bias of Flanders, a large proportion of the young men with intellectual interests, who otherwise and in other regions would choose teaching as their profession, enter the priesthood, and as a result most of the school teachers are imported from other parts of the country. This makes the opposition between teacher and child, or between school and child, all the more marked. Probably nowhere else in France, with the one exception of Alsace, is the language problem in the schools more acute. The teachers expend much ingenuity in keeping the pupils from speaking Flemish (to which language they revert as soon as school is dismissed) and resort to every type of opposition and punishment which they think may be effective. One teacher told the writer of his revival of the old Jesuit "baton method." When a pupil is heard speaking Flemish he is given a baton, which he must keep until he catches another pupil in the same act. When he finds another offender he passes on the baton to him, and the one with the baton in his possession at the end of the day is punished. In general there seems to be a definite lack of adjustment on the part of the school children to the whole school situation.

The writer does not wish to appear determined to find an environmental or cultural explanation for his results at all costs. He does feel, however, that in order to understand these results, one must give full consideration to the background of the group before proceeding to an explanation in terms of heredity. It may seem far-fetched to appeal to poor educational facilities to explain the poor performance on tests which have no obvious connection with schooling, but such a connection cannot be ruled out uncritically. After all even the performance tests were standardized on the basis of school marks and tests of educational and linguistic achievement. Underlying this whole problem is the question of the transfer of training. Do Greek and Algebra "train the mind" so that the boy can see more easily where the block should go in a performance test? It at least seems reasonable that to the extent that the solution of any problem is due to method of approach, to elimination of difficulties one after the other, to abandoning an attempt at solution as soon as it is seen to lead nowhere, instead of repeating the same error time after time,—to that extent at least transfer would seem to be possible, because all of this can be taught. This one tendency, for example, to persist in a method even when it is unsuccessful,—a sort of motor "perseveration"—accounts for a great many failures, and it can be eliminated by a good teacher of arithmetic or algebra or even Latin. Here is at least one way in which a boy who has a good teacher in school may have his performance test scores markedly improved as a result.

This leads naturally to a consideration of the most striking and consistent result reported in this study, namely the difference between city and country children. The marked superiority of the former would seem to indicate an environmental effect. The superior school training, the alacrity of approach to the test situation, experience with puzzles of the building block variety and with tests in general, a greater feeling of ease in the presence of the examiner, will all play a part. It is not very difficult to find an explanation of the results in terms of difference in training and environment.

In connection with the studies reporting a similar difference between city and country children, Shimberg's investigation is of interest (29). She found that although city children were superior to country children on an information test standardized upon a city group, the result was reversed when the test was first standardized on country children. She concludes that the difference between the two groups is entirely a function of the nature of the test, and does not really indicate a difference in ability. This result was to be expected, in the case of an information test, because those items of information which she found valuable in separating the brighter from the duller children in the country were in many cases connected with objects and activities in the country environment, open to all country children, but known only to a limited proportion of them. Applying this test to city children virtually meant that she was asking the city children to have information about things in the rural environment. The result was therefore to be expected, though the experiment is still of interest from the methodological point of view, and at least illustrates one difficulty in the way of applying to any group tests standardized on another group.

Leaving this one study aside, there is ample evidence pointing to the difference between rural and urban children. To the writer the environmental explanation seems exceedingly probable, but it must be admitted that there is another possibility. It has been maintained that the difference between city and country children is not due to the influence of the city, but to the fact that the most intelligent persons are now to be found in the urban districts, because of the "selective migration" which has gradually been draining the best human material from the country to the city. Pintner (24) writes: "In general it would appear as if urban districts rate higher than rural districts and that this is due to the migration of superior intelligence to the cities." (p. 253.) These most intelligent persons who are "selected" in this migrating process presumably produce more intelligent offspring; in this way the superiority of the city group becomes perpetuated.

It must be noted that there are two assumptions implicit in this type of argument, neither of which can as yet be accepted without question. The first is that the more intelligent people leave the country for the city; the second is that the more intelligent people have the more intelligent offspring. This second assumption is essential to the argument, since the individual children who are tested in all these investigations did not themselves take the initiative in leaving the country; it was their parents or grandparents or great-grandparents who did so, yet they, the subjects of these studies, are presumably more intelligent because these parents and grandparents were more intelligent, and moved to the city.

With reference to the inheritance of intelligence, Jennings (16) writes: "While mentally superior parents often through recombination of genes produce offspring that are mentally inferior, and mentally inferior parents produce offspring that are mentally superior, nevertheless in the long run mentally superior parents must produce a greater proportion of mentally superior offspring than do inferior parents. . . . But since the number of mediocre parents is many times as great as that of superior parents, it results that, absolutely considered, a larger number of the mentally superior individuals are produced by mediocre parents than by superior parents." (pp. 184-185.) Pearl (22) is still more doubtful about the inheritance of mental ability. There is evidently no complete agreement on this point, and it is important to remember that the inheritance of intelligence in the simple straightforward manner assumed by those who speak of Selective Migration is open to question.

As for the other hypothesis, namely that those who move from the country are more intelligent than those who stay behind, little objective evidence has as yet been collected. It is usually argued, on purely logical grounds, that it takes energy and initiative to leave one's home in order to start all over again elsewhere, and that these qualities are positively correlated with intelligence; further, that the more intelligent are more keenly aware of the limitations imposed upon them by rural life, and more alive to the possibilities of the city. As a result the more intelligent move. On purely logical grounds, however, just about as good a case could be made on the other side. It might be urged that those who are unsuccessful, and therefore presumably less intelligent, would be more likely to leave than those who had attained some position in their community, and a piece of property they could call their own. There is also the factor of attachment to the soil, especially in the case of families who have for generations owned one particular tract of land, and to whom it is unthinkable that the "land of their fathers" should pass into other hands. The writer noted this attitude particularly in the case of many German peasants. Here certain emotional and sentimental values enter, which may completely upset any simple "selective" process which might conceivably operate under other conditions.

Here the problem must be left in the meantime. The writer is at present engaged in a study of this problem of selective migration, and the preliminary results which he has already obtained lead him to believe that the differences between city and country children is an environmental rather than a "selective" effect; he reserves for a later occasion a more detailed and more objective treatment of the whole problem.

Summary and Conclusions

1. Six tests in the Pintner-Paterson Performance series were administered to ten groups of boys in Europe, each group consisting of 100 subjects ranging in age from ten to twelve years.

2. Seven of the ten groups were made up of subjects who conformed in physical appearance to the Nordic, Alpine and Mediterranean types respectively, selected from those rural districts in France, Germany and Italy in which these types are found with greatest frequency. In Germany Nordic and Alpine groups, in Italy Alpine and Mediterranean, and in France Nordic, Alpine and Mediterranean groups were studied.

3. The remaining three groups were made up of city children, in Paris, Hamburg and Rome respectively.

4. The results indicate a definite, consistent, and statistically reliable superiority of the city over the country groups; this superiority is probably due to a difference in environment, but there may possibly be selective factors at work in addition.

5. The differences between the three "racial" groups are small and unreliable, and there are significant differences between different samples of the same "race" which make it impossible to attach any significance to the concept of "race" in connection with these differences.

6. In connection with national differences, there is some superiority of the German over the other two national (rural) groups, but there is again so much variability between different samples of the same national group that the evidence for national differences must be regarded as inconclusive.

7. The results offer no substantiation of a definite "racial" hierarchy, but they do not thereby rule out "heredity" as an explanation of the observed differences between the ten groups. It is suggested, however, that there are a number of cultural and environmental factors which may account for the results.

APPENDIX 1

SPEED OF MOVEMENT

A. *The "Speed Index"*

In a previous publication the writer was particularly interested in differences in the speed of movement of various groups, and used as a "Speed Index" the number of seconds taken by a subject to make a single move in a performance test. (See 19.) If a subject completed the test in sixty seconds, for example, and made twenty moves in the process, he made a single move, on the average, in 3.0 seconds. This figure was taken as his "Speed Index," but as the index refers to the number of seconds per move, it follows that a high index means slow movement, and vice versa. (Peterson and Lanier (23) have made use of a similar device in order to indicate differences in the speed of movement and the speed of reaction.)

In this study the results for the Healy A test were treated in the manner described. One modification was introduced, however; when more than sixty seconds were required for the completion of the test, the number of moves made in the first sixty seconds was recorded and this was used as a basis for calculating the Speed Index. This was done because of the fact that when a test requires a long time for its completion, there is a tendency for the subject to "slow up," so that the latter part of the test does not represent his "normal" or usual rate of movement.

The following Table gives the Speed Indices for the ten groups in the order of decreasing speed. The Table also shows the amount of difference of the various averages from the average of the fastest (Roman) group, expressed firstly in terms of actual differences between the averages, and secondly as fractions of the standard deviation of the distribution of the Roman sample; this has been done in order to make the amount of difference in different tests directly comparable.

This table shows:

1. That three of the four fastest groups are the city groups,

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THE "SPEED INDEX" OF THE TEN GROUPS.

Group	*Aver.*	*S.D.*	*Diffs. From Rome in Seconds*	*Diffs. in S.D. Units*
Rome	2.28	.50	0.00	0.00
Hamburg	2.58	.55	—0.30	—0.60
Paris	2.76	.69	—0.48	—0.96
German Nordic	2.76	.74	—0.48	—0.96
Italian Alpine	2.86	.65	—0.58	—1.16
French Mediterranean	2.88	.89	—0.60	—1.20
Italian Mediterranean	2.97	.68	—0.69	—1.38
French Alpine	3.03	.73	—0.75	—1.50
German Alpine	3.03	.90	—0.75	—1.50
French Nordic	3.51	1.53	—1.23	—2.46

but one of the rural groups, the German Nordic, is just as fast as the slowest of the three city groups (Paris).

2. That there is a large (and reliable) difference between the two Nordic samples; a substantial though unreliable (96 chances in 100) difference between the Italian Alpine and the other two Alpine groups; very little difference between the two Mediterranean groups.

3. That there is a reliable difference between the fastest French (Mediterranean) and the slowest French (Nordic) group; a substantial difference (99 chances in 100) between the two German samples; a small difference between the two Italian groups.

The next Table gives the Speed Indices of the combined groups, expressed also in actual averages, in differences from the Roman record in seconds, and in differences from the Roman record in sigma units.

THE "SPEED INDEX" OF THE COMBINED GROUPS.

Group	*Aver.*	*Aver. Diff. from Rome in Seconds*	*Aver. Diff. from Rome in S.D. Units*
City	2.54	—0.29	—0.52
Country	3.00	—0.73	—1.45
German (rural)	2.90	—0.62	—1.28
French (rural)	3.14	—0.86	—1.72
Italian (rural)	2.90	—0.62	—1.28
Nordic	3.14	—0.86	—1.72
Alpine	2.97	—0.69	—1.39
Mediterranean	2.93	—0.65	—1.29

These results show:

1. That by far the largest and most reliable difference is between the city and country groups.

2. That the French group is slower than the other two national groups; this difference is almost statistically reliable.

3. That the Mediterranean group is the fastest, the Alpine a little slower; and the Nordic group the slowest; the difference between the Nordic and Mediterranean groups is almost reliable.

It is to be noted that the "slowness" of both the French and the Nordic combined groups is due to the record made by the French Nordic group, which was by far the slowest group.

B. *A "Dotting Test"*

This was a simple speed test, in which the task was to put one dot into each square of a piece of squared paper as quickly as possible. The paper was ten x seven centimeters, and each square was ½ centimeter by ½ centimeter, i.e., ¼ square centimeter. The subject was given sixty seconds, and the score is the total number of squares dotted. The table gives the average number of "dots" for the ten groups, and also the differences from the average of the Roman group, in actual records and also in sigma units. A "plus" deviation means that the group was faster than the Roman sample which was used as the standard in all these comparisons.

THE "DOTTING" SCORES OF THE TEN GROUPS.

Group	*Aver.*	*S.D.*	*Diffs. from Rome in No. of Dots*	*Diffs. from Rome in S.D. Units*
Paris	118.2	19.4	+ 8.7	+0.52
French Mediterranean	114.3	18.5	+ 4.8	+0.29
Rome	109.5	16.6	0.0	0.00
Italian Alpine	107.0	13.6	— 2.5	—0.15
German Alpine	106.8	16.6	— 2.7	—0.16
German Nordic	106.7	19.9	— 2.8	—0.17
Hamburg	106.0	16.9	— 3.5	—0.21
Italian Mediterranean	104.6	21.9	— 4.9	—0.29
French Alpine	98.8	17.1	—10.7	—0.64
French Nordic	95.6	14.8	—13.9	—0.84

These results show:

1. That while two of the city groups are again among "the

first three," in this test one of the city groups (Hamburg) is relatively slow, and occupies the seventh place.

2. That there is again a large and reliable difference between the two Nordic groups; a reliable difference between the Italian and German Alpines on the one hand and the French Alpines on the other, and also a reliable difference between the two Mediterranean groups.

3. That there is a reliable difference between the French Mediterranean group and the two other French groups; a small and unreliable difference between the two Italian groups, and no difference between the two German groups.

The next table gives the results for the combined groups, with the Roman record taken as standard.

THE "DOTTING" RECORDS OF THE COMBINED GROUPS.

Group	*Aver.*	*Aver. Diff. from Rome in No. of "Dots"*	*Aver. Diff. from Rome in S.D. Units*
City	111.2	+1.4	+0.10
Country	104.8	—4.7	—0.28
German (rural)	106.8	—2.7	—0.17
French (rural)	102.9	—6.6	—0.40
Italian (rural)	105.8	—3.7	—0.22
Nordic	101.2	—8.3	—0.56
Alpine	104.2	—5.3	—0.32
Mediterranean	109.5	—0.0	0.00

These results show:

1. That there is again a reliable difference between city and country groups, but this is not the largest difference which obtains between the combined groups.

2. That the French group is again slower than the other two groups, but the difference is not quite reliable.

3. That the Mediterranean group is again the fastest, the Alpine next, and the Nordic group slowest; the difference between the Mediterranean and Nordic groups is slightly greater than that between city and country, and is statistically reliable.

The Flemish group is again the slowest of the ten groups. Most of the other groups are not as consistent. There is a rank order correlation for the ten groups (Method of Rank Differences, see Garrett (10), p. 191) between rank in the Speed Index and rank in the Dotting test, of 0.56 ±.15.

C. *A Test of Manual Dexterity*

This is strictly speaking not a test of speed but of manual dexterity, but speed is the important factor in the performance. The test (which is of German manufacture, and has been used in Germany extensively) consists of twenty metal discs each containing three openings, and a three-pronged "fork" upon which the discs fit. The discs are placed on the table in front of the subject, he is given the "fork," and requested to replace the twenty discs on the fork as quickly as possible. In this study three trials were given, and the subject was credited with his best record.

The Table gives the average number of seconds required by each group, and the deviations from the Roman average.

THE "MANUAL DEXTERITY" SCORES OF THE TEN GROUPS.

Group	*Aver.*	*S.D.*	*Diffs. from Rome in No. of Secs.*	*Diffs. from Rome in S.D. Units*
Paris	46.3	8.1	+0.8	+0.10
Rome	47.1	8.2	0.0	0.00
German Nordic	49.6	8.9	—2.5	—0.30
Hamburg	49.9	10.4	—2.8	—0.35
French Mediterranean	50.6	9.3	—3.5	—0.43
Italian Mediterranean	51.5	8.6	—4.4	—0.54
Italian Alpine	51.9	7.9	—4.8	—0.59
German Alpine	52.9	9.4	—5.8	—0.71
French Alpine	53.6	10.0	—6.5	—0.79
French Nordic	54.1	10.9	—7.0	—0.85

The results show:

1. That again two of the city groups are among the first three, and again the Hamburg group is somewhat slower, being in fourth place.

2. That the two Nordic groups again differ reliably; the Alpine groups differ less (and unreliably) and the Mediterranean groups very little.

3. That the two German groups differ clearly and almost reliably (99 chances in 100) ; the French Mediterranean and the French Nordic groups differ similarly (99 chances in 100) ; the two Italian groups do not differ.

The next Table gives the results on the Manual Dexterity test for the combined groups.

THE "MANUAL DEXTERITY" SCORES OF THE COMBINED GROUPS.

Group	*Aver.*	*Aver. Diff. from Rome in No. of Seconds*	*Aver. Diff. from Rome in S.D. Units*
City	47.4	—0.72	—0.08
Country	52.0	—4.90	—0.60
German (rural)	51.3	—3.6	—0.51
French (rural)	52.8	—5.1	—0.69
Italian (rural)	51.7	—4.0	—0.57
Nordic	51.9	—4.2	—0.58
Alpine	52.8	—5.1	—0.70
Mediterranean	51.1	—3.4	—0.49

The results show:

1. That there is a large and completely reliable difference between city and country groups; this difference is much larger than that which obtains between any other of the combined groups.

2. That the French group is again slower, but slightly and unreliably, than the other two groups.

3. That the Mediterranean group is again the fastest of the three, but the differences are small and unreliable; in this test the second group is the Nordic, and the Alpine group is last.

The Flemish group is again the slowest of all. It is the only group which has maintained the same position consistently throughout the three tests, though the groups from Paris and from Rome have also varied very little. There is a rank order correlation between Manual Dexterity and the "Speed Index," for the ten groups, of .90 ± .04. Between the Manual Dexterity test and the Dotting test the rank order correlation is .72 ± .11. These correlations seem high enough to suggest some correlation between these various types of performance though the data do not permit any generalizations as to a Speed Factor.

D. *The Combined Records for "Speed"*

The records on the three "speed tests" were combined so as to make it possible to rank the ten groups in order of merit for speed. This was done by taking the average of the three differences, in S.D. units, of every group from the Roman average, using the standard deviation of the Roman group in every case. For example the German Nordic group was .17 S.D. below the Roman group in the Dotting test, .30 below in the Manual Dexterity test, and .96 below in the Speed Index. Its average distance from the Roman average was therefore .48 S.D. units, and that figure was therefore taken as the German Nordic group's score for speed. The following Table gives these results for the ten groups in order of merit.

COMBINED SPEED RECORDS OF THE TEN GROUPS.

Rank	*Group*	*Aver. Distance from Rome in S.D. Units*
1.	Rome	0.00
2.	Paris	—0.11
3.	Hamburg	—0.39
4.	German Nordic	—0.48
5.	Italian Alpine	—0.63
6.	French Mediterranean	—0.64
7.	Italian Mediterranean	—0.74
8.	German Alpine	—0.79
9.	French Alpine	—0.98
10.	French Nordic	—1.38

As in the results obtained in the case of the performance tests, the first three groups are the three city groups, and this is again the only consistent result. Neither the various racial nor the various national groups show any consistency in the position which is occupied by the various samples. The marked difference between the two Nordic groups, for example, makes it impossible to think of the Nordics as either slow or fast; different groups of Nordics seem to react very differently. The differences between the German Nordic and German Alpine samples, and between the French Nordics and the French Mediterraneans, make it almost as difficult to attach any importance to national differences in this connection. Individual groups may differ markedly and consistently in the speed of their reactions, but the differences do not seem to be explicable on either racial or national lines.

The following Table gives the Speed Records for the combined groups.

COMBINED SPEED RECORDS OF THE COMBINED GROUPS.

Group	*Aver. Distance from Rome in S.D. Units*
City	—0.17
Country	—0.80
German (rural)	—0.63
French (rural)	—1.00
Italian (rural)	—0.69
Nordic	—0.93
Alpine	—0.80
Mediterranean	—0.69

The Mediterranean-Alpine-Nordic hierarchy is interesting because it fits in with the popular opinion as to "racial" differences in speed. For the reasons given in preceding sections, however, it seems more than doubtful whether the results can be interpreted as evidence of a "racial" difference. If the criterion be again applied of seeing whether a difference between two "races" which is noted in one setting and in one area, also holds when other groups in other settings are compared, the decision would have to be in the negative. In France the Mediterranean group is the quickest, then the Alpine, then the Nordic; in Italy, on the other hand, the Alpine group is quicker than the Mediterranean; and in Germany the Nordic group is quicker than the Alpine. In the face of these contradictions and discrepancies, the conclusion must be that "racial" differences in speed have not been demonstrated in this study.

APPENDIX 2

SOME BY-PRODUCTS OF THE INVESTIGATION

This section consists of records and observations pertaining to certain non-intellectual traits to which the writer paid some incidental attention during the course of this study. The measurement of these traits is by no means standardized, and it is doubtful whether in the meantime much is gained by applying to them the quantitative method. The results are presented for what they are worth, and in spite of the fact that the ordinary criteria of validity and reliability do not apply.

A. *"Persistence"*

A number of the subjects "gave up" during the course of the examination; when they were unsuccessful they said to the examiner, "this can't be done." The examiner encouraged them, told them that it could certainly be done, that the other boys had done it,—and they returned to the task. Record was kept of the fact that the boy had failed to "persist" in the attempt to solve the problem.

The Table gives the number of cases of this kind which occurred in each group.

SUBJECTS IN EACH GROUP SHOWING LACK OF PERSISTENCE.

Group	*Number of Cases*
French Mediterranean	1
German Alpine	4
German Nordic	6
Italian Alpine	7
French Nordic	8
Hamburg	9
Paris	9
French Alpine	9
Italian Mediterranean	10
Rome	17

The variations between the groups are so marked as to suggest that there may be differences of this kind which would repay further study. The fact that seventeen boys out of the hundred in the Roman sample "gave up" when they were unsuccessful and that only one boy in the French Catalan group did so, points to the possibility that there may be a real difference in attitude on the part of the two groups. This particular quality of "persistence" in the face of difficulties seems to the writer to be particularly significant because of the part it may play in affecting test results. This aspect of the problem was not considered in this investigation, but it seems important enough to warrant careful study.

The results for the combined groups show no definite indication of either racial or national differences.

SUBJECTS SHOWING LACK OF PERSISTENCE.

Group	*Number of Cases*	*Per Cent of Cases*
City	35	11.7
Country	45	6.4
Nordic	14	7.0
Alpine	20	6.7
Mediterranean	11	5.5
German (rural)	10	5.0
French (rural)	18	6.0
Italian (rural)	17	8.5

B. *"Imagination"*

A number of subjects in each group were given an "Imagination" test. The material used was somewhat similar to the familiar "ink-blots" except that the "blot" was rectangular, and instead of being uniformly black, consisted of indistinctly outlined darker and lighter areas, so that the contours were by no means definite, and it was therefore possible to "see" almost anything. The test was devised by Herr Struve of the Hamburg Psychological Laboratory, and used by him in a study of types of imagination.

Tests of imagination are hardly at the stage where quantitative methods are applicable. It may be of some interest, however, to note the differences in the number of things "seen" by the subjects in the different groups, even if the figures cannot be taken very seriously as indices of the "amount" of imagination possessed by each group. As the test was introduced after the investigation had been going on for some time, no subjects from the Parisian and the German Alpine groups, (which had already been tested and could not, for lack of time, be re-examined), were included. Also because of lack of time, the investigator found it impossible to give this test to all the subjects, and examined only a relatively small number in each group.

The subject was told to tell the investigator what he could "see" in the picture, and to point to the object when he found it. This was done in order that the subject might not simply mention the names of a number of objects which he did not actually "see." The requirement to point to what he described seemed successfully to rule out this tendency on the part of the subject. Each subject looked at the test paper for ten minutes, and was encouraged to "Look some more" if he gave up before the time had expired.

The Table includes "Gross Averages" and "Net Averages"; the first refers to the total number of things seen, the subject receiving credit twice, for example, when the same object was seen twice in different parts of the paper; the second refers to the number of *different* things seen, so that if a "man" were seen twice, the subject is credited with only one object "seen."

"IMAGINATION" TEST.

Group	*No. of Cases*	*Gross Average*	*Net Average*
Italian Mediterranean	22	19.3	10.6
Hamburg	20	16.9	13.4
Rome	21	14.1	10.0
Italian Alpine	25	13.5	9.4
French Alpine	32	11.2	7.8
French Nordic	36	10.7	8.0
French Mediterranean	29	10.4	7.7
German Nordic	15	7.6	5.3
City	41	15.5	11.7
Country	159	12.1	8.1
German (rural)	15	7.6	5.3
French (rural)	97	10.8	7.8
Italian (rural)	47	16.4	10.0
Nordic	51	9.2	6.6
Alpine	57	12.4	8.6
Mediterranean	51	14.9	9.2

In view of what has been said about the difficulties in the way of measuring "imagination" with any exactness, the writer would hardly dare attach much significance to the actual figures in this table. It is at least interesting, however, that the Sicilian group, which was last in the list for "general intelligence" should be first in the "amount of imagination"; the German Nordic group, which made an excellent showing in the performance tests, is the least "imaginative." The difference between city and country is small. There is a difference between the combined "racial" groups, but again the difference between the two Mediterranean groups imposes caution in assuming a race difference. On the other hand the Italian groups are consistently high in this test, and it may be that there is something in the Italian culture and education which stimulates the phantasy activity on the part of school children. The small number of cases studied makes it difficult to draw any conclusions with definiteness.

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